AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An image recognition device, for detecting arbitrary images, comprising:

an element matching means arranged and configured to match an input image with target pattern elements obtained by dividing a target pattern into a plurality of ~~regions~~ target pattern elements along the shapes in the target pattern; and

a pattern detection means arranged and configured to recognize whether said input image includes said target pattern by comparing position data of matching pattern elements output by said element matching means with multiple magnification reference arrangement data of each of said target pattern elements;

wherein said multiple magnification reference arrangement data corresponds to magnification levels no greater than a level at which a human eye can readily distinguish between an original and a non-zero magnification of the original.

2.   (Currently Amended) An image recognition device, for detecting arbitrary

images, comprising:

a dictionary generating unit arranged and configured to store dictionary

data for each of a plurality of target pattern elements obtained by dividing

a target pattern along the shapes in the target pattern;

an element matching unit arranged and configured to ~~compare and~~ match

an input image ~~pattern data~~ against said dictionary data stored in said

dictionary generating unit;

an arrangement data generating unit which stores position data

representing an arrangement of each of the target pattern elements at a

plurality of magnifications, each of said plurality of magnifications being

no greater than a level where a human eye can readily distinguish

between an original and a non-zero magnification of the original; and

a pattern detection unit which, based on the output of said element

matching unit and said position data from said arrangement data

generating unit, determines whether said target pattern can be found in

said input image ~~pattern data~~.

3.   (Original) The image recognition device of claim 2, wherein said dictionary

generating unit comprises a software routine.

4.   (Original) The image recognition device of claim 2, wherein said element

matching unit comprises a software routine.

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5.   (Original) The image recognition device of claim 2, wherein said arrangement

data generating unit comprises a software routine.

6.   (Original) The image recognition device of claim 2, wherein said pattern

detection unit comprises a software routine.

7.   (Currently Amended) An image processing device comprising:

an element matching means to match an input image with ~~the~~ target

pattern elements obtained by dividing a̲ target pattern into a plurality of

~~regions~~ target pattern elements along the shapes in the target pattern;

a pattern detection means to recognize whether said input image includes

said target pattern by comparing position data of <u>matching</u> pattern

elements output by said element matching means with multiple

magnification reference arrangement data of each of said target pattern

elements,

wherein said multiple magnification reference arrangement data

corresponds to magnification levels no greater than a level at which a

human eye can <u>readily</u> distinguish between an original and a non-zero

magnification of the original; and

a control means to control output of said input image to an output device

when said pattern detection means recognizes said input image includes

said target pattern.

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8.   (Original) The image processing device of claim 7, wherein said output device comprises a printer.

9.   (Original) The image processing device of claim 7 further comprising a scanner to input said input image into said image processing device.

10.   (Original) The image processing device of claim 7 further comprising a digital camera to input said input image into said image processing device.

11.   (Original) The image processing device of claim 7 further comprising a floppy disc to input said input image into said image processing device.

12.   (Original) The image processing device of claim 7 further comprises a personal computer to facilitate copying of said input image.

13.   (Currently Amended) A recording medium containing computer code for implementing an image recognition method for detecting arbitrary images said recording medium comprising:

> a storage area having stored thereon a computer code, said computer code comprising:
>
> > an element matching means arranged and configured to match an input image with target pattern elements obtained by dividing a target pattern into a plurality of ~~regions~~ target pattern elements along the shapes in the target pattern; and

a pattern detection means executable by said computer ~~causes~~ causing said computer ~~to detect relative positions of said plurality of input pattern elements compared with a multiple magnification reference arrangement data of each of said target pattern elements in order~~ to recognize whether said input image includes said target pattern by comparing position data of <u>matching</u> pattern elements output by said element matching means with multiple magnification reference arrangement data of each of said target pattern elements;

wherein said multiple magnification reference arrangement data corresponds to magnification levels no greater than a level where a human eye can <u>readily</u> distinguish between an original and a non-zero magnification of said original.

14.   (Currently Amended) A method of processing <u>an</u> image, said method comprising:

dividing a ~~reference image~~ <u>target pattern</u> into a plurality of target pattern elements <u>along the shapes in the target pattern,</u> said ~~reference image~~ <u>target pattern</u> being an arbitrary ~~image~~ <u>pattern</u>;

determining reference arrangement data for each of said target pattern elements at a plurality of magnifications, said plurality of magnifications being no greater than a level where a human eye can <u>readily</u> distinguish between an original and a non-zero magnification of said original;

inputting data for an input image;

matching said input image with said target pattern elements to determine

whether said target pattern elements can be found in said input image;

and

comparing position data of target pattern elements found in said

matching with said reference arrangement data to determine whether said

input image includes said ~~reference image~~ target pattern.

15.   (Canceled)

16.   (Currently Amended) The method of claim 14, further comprising halting if said ~~target pattern elements include said input elements based on said comparing~~ input image includes said target pattern.

17.   (Currently Amended) The method of claim 14 further comprising changing the color of a reproduction of said input image if said ~~target pattern elements include said input elements based on said comparing~~ input image includes said target pattern.

18.   (Currently Amended) The method of claim 14 further comprising reducing the resolution of a reproduction of said input image if said ~~target pattern elements include said input elements based on said comparing~~ input image includes said target pattern.

19.   (Currently Amended) The method of claim 14 further comprising superimposing an alphanumeric character on top of a reproduction of said input image if said ~~target pattern elements include said input elements based on said comparing~~ input image includes said target pattern.

20. (Previously Presented) The image recognition device of claim 1, wherein each of said multiple magnification reference arrangement data corresponds to a magnification level no greater approximately 15%.

21. (Previously Presented) The image recognition device of claim 2, wherein each of said plurality of magnifications is no greater than approximately 15%.

22. (Previously Presented) The image processing device of claim 7, wherein each of said multiple magnification reference arrangement data corresponds to a magnification level no greater than approximately 15%.

23. (Previously Presented) The recording medium of claim 13, wherein each of said multiple magnification reference arrangement data corresponds to a magnification level no greater than approximately 15%.

24. (Previously Presented) The method of claim 14, wherein each of said plurality of magnifications is no greater than approximately 15%.

25. (New) The image recognition device of claim 1, wherein said position data comprises the center point of each matching pattern element output by said element matching means.

26. (New) The image processing device of claim 7, wherein said position data comprises the center point of each matching pattern element output by said element matching means.

27. (New) The recording medium of claim 13, wherein said position data comprises the center point of each matching pattern element output by said element matching means.

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28.   (New) The method of processing an image of claim 14, wherein said position

data comprises the center point of each target pattern element found in said

matching.